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## SYMPOSIUM ON THE CHANGING SCENE IN GRADUATE MEDICAL EDUCATION \*

### Opening Remarks

E. HUGH LUCKEY, M.D.

President, The New York Hospital-Cornell Medical Center  
New York, N. Y.

WHEN asked to introduce the subject of our symposium, *The Changing Scene in Graduate Medical Education*, I accepted with unusual interest because the problems centering around this phase of the education of the health professional are among the most critical and timely of all facing us today. It is clear that we are in trouble. This trouble centers around three parameters which characterize most professional career roles: quantity, quality (or differentiation), and distribution in relation to the central obligation of professional education—to meet society's needs as an intelligent analysis of those needs dictates.

Primarily we are in trouble because of a lack of planning. A laissez-faire attitude and discontinuity in the so-called "continuum of medical education" have resulted in an imbalance in numbers and maldistribution of health personnel which perpetuate the uneven care of patients that characterizes our health-care system.

The signs of trouble have been posted for many years. How did we get where we are? House officerships in the United States at one time were transplants from England, Scotland, and Western Europe. Although their titles varied, the first of these graduate house officers were specialized (differentiated) as surgeons or therapists; their terms of apprenticeship were brief. It was not until the first half of the 19th century that so-called rotating hospital apprenticeships began their rapid growth—a development which was indicative of recognition that "on-the-job" supervised training was essential in preparation for independent practice.

The evolution of graduate medical education can be made brief by a topical listing of landmarks and their results:

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*1875-1900—The gain in respectability of hospitals as a locus for treatment of all segments of society.* Until the latter part of the 19th century hospitals were utilized nearly exclusively by the indigent sick; the well-to-do were cared for in their homes. Between 1875 and 1900 the ambiance of hospitals, as well as technical advances in surgery, made it respectable and even necessary for the wealthy to enter hospitals for certain types of care. This, in the social climate of the late 19th century, led to an increase in the need for attending house officers and for extensions of their role.

*1910—The Flexner report.* The Flexner report, of course, played a critical role in the development of graduate education. Its criticisms of the burgeoning proprietary medical schools and of the weak scientific base for medical practice implied as well the need for more structured and extensive graduate education, which then consisted of brief "on-the-job" apprenticeships for preceptees. The measures prompted by this report were important in the development of a stronger educational orientation of programs.

*1920s—Graduate training in Western Europe.* The flowering of German science in the period following Von Humboldt's influence on education in that country led large numbers of medical graduates in the United States to seek experience in the scientific method he propounded and to apply it to clinical investigation and practice. The return of these trainees and the further large immigration from Central Europe of physicians imbued with this clinical scientific tradition extending through the next decade had important effects on the evolution of specialization in graduate medical education.

*1932-1937—Reports of commissions on undergraduate and graduate medical education.* These important reports, which further emphasized the need for a strong scientific base and structured programs, attempted to establish the minimum requirements for such programs. These led ultimately to the development of specialty boards and the accreditation of internships and residencies through the Council on Medical Education of the American Medical Association and the Residency Review Committee under its sponsorship.

*1941-1945—World War II.* Although this period was one of considerable disruption in graduate education for many physicians, it had a substantial impact on the educational goals of those returning from military service. The strong military emphasis on classifications of

physicians and the increased status of those with specialty classification redirected the career goals of many of our discharged medical officers.

*1946-1965—National Institutes of Health (NIH) growth period for research traineeships.* The rapid growth of NIH research funds and research traineeships in the 15-year period following World War II gave a further impetus to clinical specialization as well as providing an important cadre of research scientists. Many of these training programs combined research with clinical subspecialization. Large subspecialty divisions developed in clinical departments, where specialty residents and research trainees worked side by side in the clinical activities of the division.

*1965-1966—Medicare, Medicaid, Comprehensive Health Planning, and Regional Medical Program.* These important federal legislative acts, although primarily concerned with mechanisms of payment for care of the population older than 65 and of the medically indigent and with the demonstration of improved systems for the delivery of health care, have had important indirect influences on graduate education in university hospitals.

*1966—Millis report.* The commission headed by Dr. John Millis, president emeritus of Western Reserve University, conducted a comprehensive review of the state of graduate medical education. Noting the anomaly of hospital and specialty-society control of this important phase of the educational experience of the physician, the commission strongly recommended that graduate medical education become a university responsibility. Although this recommendation was rational, its implementation has been slow. The most important factors impeding implementation have been the growing identification of appointees of residency-training programs as hospital employees included in reimbursements for hospital costs and a diminishing educational component in these programs (in part the result of the phasing out of programs of graduate training by the NIH).

*1967—New York State medical enrollment grants.* New York State in 1967, in response to the state and national shortage of physicians and the more evident maldistribution of physicians throughout the state, provided its private medical schools with a financial incentive of \$6,000 for each additional student and encouraged the development of departments of family practice in the State University of New York medical centers.

1969—*Bundy plan*. Medical schools in New York State were given important basic support and a further incentive to increase enrollments in 1969 through the provision of \$2,400 for each graduating medical doctor. The amount was increased to \$3,000 in 1972 and 1973.

1969—*Establishment of the American Board of Family Practice*. In the face of growing demands for primary-care physicians and the effective organization of family practitioners, this specialty board was organized in 1969. The board established basic requirements for training and certification in this specialty in an effort to stimulate residency programs in preparation for careers in primary care and family practice.

1970—*Higher education and the nation's health—Report of the Carnegie Commission on Higher Education*. This important report alleged that large shortages of health personnel existed and indicated that immediate intensive effort was required on the part of schools for health professionals. In addition to the expansion of classes in existing schools, it proposed additional schools and the establishment of a national network of area health educational centers for graduate and continuing education.

1972—*Department of Health, Education, and Welfare capitation grants and family-practice acts*. Largely in response to the Carnegie Commission Report, financial incentives through capitation grants were offered to the nation's medical and other health-professional schools which met prerequisite enrollment increases. The shortage of primary physicians received particular attention in special federal legislation to support programs of family medicine, but its implementation was delayed by executive decision.

1973—*Report of the Committee on Goals and Priorities of the National Board of Medical Examiners*. This most recent report re-examined the interfaces of the continuum of medical education and proposed major changes in the organization, evaluation, and certification of the various phases of medical education and practice. Attention was directed to the important and increasing problems of the foreign medical graduate as they relate to graduate education. I shall not dwell on this important problem since it will be discussed fully in the next presentation.

Each of these landmarks has had its own influence on the course of graduate medical education. In some instances this effect has been

direct, in others indirect. But one cannot examine intelligently the problems of this intermediate phase of the educational process without a study of what has preceded it and what is to follow.

*Pre-professional education.* I do not need to review the enormous changes that have taken place in primary, secondary, and college educational experiences in recent decades. The marked changes in secondary and college science precipitated the relatively recent changes in basic-science curricula in medical colleges (e.g., 30% to 50% of entering medical students no longer need a course in basic biochemistry).

*Undergraduate medical education.* The changes that have occurred in this phase of medical education are the result not only of changes in the university science curricula but also of at least two other factors: 1) a growing preoccupation with early career differentiation which has led to "multiple track" curricula and 2) the frustration of both students and curriculum committees in their attempts to provide wide exposure to the burgeoning range of specialties. This has resulted in subspecialty divisions which are nearly autonomous and new departments which are completely autonomous. No longer is it possible to provide a comprehensive experience in the various medical fields—or, for that matter, even a panoramic view of the broad field of medicine. This led to the development of increasing elective or selective time in the undergraduate medical period. In the majority of medical schools at least one full year of the traditional four is now elective. This change has effectively shortened the period of required undergraduate clinical clerkship. Thus, it is possible for graduates of medical schools in the United States today to receive M.D. degrees with less than one year of experience with patients in which to learn and apply the case-study method to patients' problems.

In 1960 the Committee on Internship, Residencies, and Graduate Medical Education of the Association of American Medical Colleges completed a study of the internship in university hospitals. This study\* emphasized the conflict between the "rotating" internship and the well-developed undergraduate clinical clerkships which had evolved in our university hospitals. It should be emphasized that this conflict, which existed so clearly from 1958 to 1960, would be markedly less evident

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\*Saunders, R. H., Jr.: The university hospital internship in 1960: A study of the programs of 27 major teaching hospitals. *J. Med. Educ.* 36:561, 1961.

today as the result of the over-all attenuation of these clerkships prior to graduation.

Through these changes, today's medical school graduates may have had less opportunity for the development of skills as clinical generalists, although early specialization may accelerate their progress toward clinical expertise in their chosen specialty. Further, if one considers the increasing trend toward early admission to medical school (after three years of college) and the shortening of the time for the completion of undergraduate medical education (more than one quarter of our nation's schools now provide the opportunity to complete medical school in three years) we can develop a profile of the medical graduate in the 1970s as younger, with a stronger scientific base, with less educational experience as a generalist, and with more accelerated preparation for a specialty than previous graduates.

I shall skip quickly over that period of the continuum of medical education which is our topic here, graduate education, to focus on what is to come. What is the role of graduate education? Or, posing the question differently: What trends in medical careers and practice must be considered in our examination of form, content, and, importantly, numbers in graduate education?

Time permits me to be predictive only on the basis of personal bias rather than in a detailed presentation of the different viewpoints which participants in this symposium may wish to expound. Here, I am confident, I shall be provocative. These are my convictions, not my commitments.

1) We are likely to produce an excess of health professionals in this country by 1980, certainly by 1990. This will be so in total numbers and certainly in specific specialty categories—although certain specialties, notably surgery and ophthalmology, already have undertaken studies of their needs which should be useful. Why do I say this? Have we not been hearing about a doctor shortage? What about those 50,000 additional doctors that we need? First, let us agree that there are large underserved geographic and population groups in this country. This is primarily a problem of maldistribution of physicians complicated by a lack of knowledge on the part of the public and the profession as to the optimum utilization of the large numbers of health professionals and physicians.

2) Despite more than 15 years of discussions of the shortage of

primary or family physicians, we in medicine have not responded. Most recent figures indicate that less than 1,000 of the more than 50,000 individuals in graduate medical education in this country are in programs tailored specifically toward careers as family physicians—this despite the increasing interest of young physicians, at least upon graduation, in this career choice. One of our Western medical schools reported that 40% of last year's graduating class was interested in such a career. Our old protestations that the general internist and pediatrician are equipped and available to fill this role are belied by the continuing subspecialization in these disciplines.

3) The medical graduate will become less and less the first contact for the patient seeking health care. Although our physician-in-training population promises increases in physicians, with physician-to-population ratios far greater than could have been predicted as recently as five years ago, the numbers of coprofessional personnel are increasing even more rapidly and their roles are being extended. There are more than twice as many registered nurses as physicians in active service in the United States. One only needs to examine the many programs for the preparation of "intermediate level health practitioners" to predict the inevitable. An increasing number of states have nurse-practice acts which provide the legal means for members of this group to become the first individual with whom those entering the health-care system will have contact.

The rapid growth of education and training programs for coprofessional personnel and allied health professionals has not been generally recognized within our profession. Starting a few years ago, with a base of eight such individuals to each physician—compared to the Soviet Union's ratio of three per physician—recent estimates\* suggest a ratio of more than 10 to one physician.

4) There will be an increasing institutionalization of medical practice. By this I do not mean necessarily an increasing aggregation of physicians in hospital or group-practice settings, but rather forced responsiveness to societal institutions. One has only to see the growth of state-wide authority in health planning, utilization review, certification of individual procedural qualifications, and medical audit requirements and the number of professional standards-review organizations, with the increasing awareness of the need for professional

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\*Accurate figures are difficult to obtain.

recertification, to reach this conclusion. The long-needed requirement for effective continuing education may be satisfied by a healthy outgrowth of this institutionalization.

5) Finally, I see no immediate prospect for a rational establishment of priorities in health, coordination of the system, or graceful rapprochement among our numerous guilds and professional groups. One only needs to spend some time listening to jurisdictional discussions by groups of specialists—for example, ophthalmologists and optometrists—to reach this conclusion. Not only are critical economic factors at work, but the entire scene has become politicized.

I do not foresee the development of a comprehensive national health-insurance plan in our country in the near future. It appears to me that a multifaceted program, with the basic features of catastrophic insurance of the type applying to kidney disease under the Medicare legislation, will be the next step toward a national health-insurance scheme in this country.

This is the current scene as we undertake the discussion in this symposium.